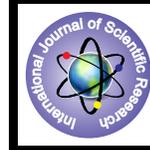


An Experience of 60 Ventral Hernias



Surgery

KEYWORDS : ventral hernia, incisional hernia, laparoscopic hernia repair, onlay/underlay

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ABSTRACT

The aim of study is to study ventral hernia in its various aspect like age and sex predilection, various methods of repair, & use of post-operative parenteral antibiotics and analgesic and hospital stay. This was a retrospective study conducted on 60 patients over a period of one year (2012-2013) in department of general surgery, Dr. S. N. Medical College, Jodhpur. Patients were studied in aspect of their median age of presentation, sex predilection in primary vs secondary hernia. Among primary ventral hernia paraumbilical was commonest whereas in secondary hernia infra umbilical incisional hernia was common. Swelling was common complaint followed by pain. Maximum cases were repaired with open mesh repair (onlay>underlay) technique followed by laparoscopic hernia repair and primary suture approximation. Incisional hernia were associated with statistically significant post operative prolonged use of parenteral antibiotics and analgesic.

INTRODUCTION

Ventral hernia defined as protrusion of abdominal content through defect in abdominal wall. Ventral hernia may develops as defect at birth, resulting from incomplete closure of a part of the abdominal wall or it may develop spontaneously or following surgical incision occurring when incision doesn't heal properly. Among various repair methods traditional primary repair entails a laprotomy with suture approximation of strong facial tissue on each side of defect. However recurrence rate after this procedure are as high as 41-52% depends on duration of follow-up^{1,3}. Hernioplasty in which large prosthetic meshes are implanted appear to have lower failure rates(12% to 24%), but required dissection of wide areas of soft tissue contributes to an increased incidence of wound infection and wound related complications^{2,4,5}.

In the interest of less morbid surgeries and appeal of minimally invasive surgery encouraged development of laparoscopic methods for ventral hernia repair. These techniques are based on same physical and surgical principles as the open underlay procedure described by Stoppa, Rives et al and Wantz^{2,6,7}.

METHODS AND MATERIALS

This is a type of retrospective study conducted in single surgical unit at Dr. S. N. Medical College, Jodhpur.

Patients included in this study were operated for elective ventral hernia repair in a single surgical unit.

EXCLUSION CRITERIA

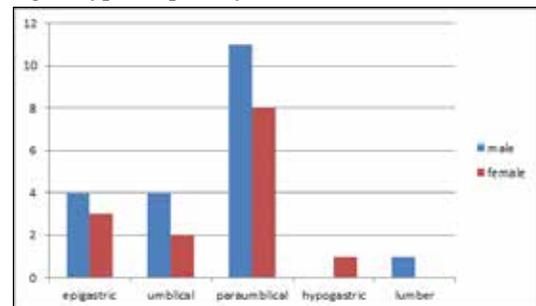
- Ventral hernia with intestinal obstruction, strangulation, or gangrene prompting emergency operation.
- Sub- xiphoid hernia
- Defect size greater than 10 cm.

RESULTS

In our study 60 patients were included out of which 33(55.9%) were females and 26 (44%) male. Study shows that age of presentation varies from 24 to 70 yrs with mean age of 50.2 yrs. Mean age of male patient was 51.5 yr and female 49.3 yr. swelling was most common complaint in almost 90% patients followed by pain(16%). Out of 34 cases of primary ventral hernia (spontaneous/congenital) 20 were male and 14 were female. Thus primary ventral hernia accounted for as many

as 76.9% of all male patients included in this study. Among all primary ventral hernia paraumbilical hernia (19 pt) was most common variety followed by epigastric & umbilical hernia and rarely lumbar & hypogastric hernia.

Fig. 1: Types of primary ventral hernia



Results shows that out of 25 secondary (incisional) ventral hernia only 6 were male (23%) and 19 were female (76%). Out of 19 female of incisional hernia 14 had history of previous gynecological surgery (6 hysterectomy, 5 caesarian, 3 sterilization procedure). Thus gynecological procedures are accounted for 73.7% of all female with incisional hernia. Out of 60 patients 30 were managed with open mesh repair, 25 with laparoscopic mesh repair and rest 5 with primary suture approximation. A drain was placed in as many as 17 out of 18 patients in whom onlay mesh was applied(93.9%) . when mesh was placed underlay fashion drain was placed only in 3 out of 13 patients(23%). Patients with open mesh repair more commonly required prolonged intravenous antibiotics as compared to those with laparoscopic repair.(For 96 hour cutoff, p = 0.0124)

Table I .Use of intravenous antibacterial in different operative groups (96 hrs cut-off)

	Antibiotics stopped before postoperative day 4	Antibiotics continued on or beyond day 4
Laparoscopic	22	1
Lap converted to open	1	-
Open mesh repair	19	9
Open suture approximation	2	1

Patients above 50yr had longer post operative hospital stay (mean 5.8 days) than those below 50 yr (mean 4 days) p value 0.013.

Patients with open mesh repair required either second parteral analgesic (15 out of 30) or prolonged analgesic more commonly than those with laparoscopic repair.

Table II. Use of parenteral analgesic in different operative groups (48 hr cut-off)

	Less than 48 hrs . Single analgesic	Less than 48 hrs Two analgesic	More than 48 hrs analgesic
Laparoscopic	17	0	6
Lap converted to open	01	0	0
Open mesh repair	14	10	5
Open suture approximation	02	0	1

DISCUSSION

This was a retrospective study carried out in 59 patients. 33 out of 59 patients in study were female, the female preponderance was 1.27:1 which was similar to what **Carlson MA et al** had found (pubmed)⁸. Primary or spontaneous ventral hernia were more common in male(58.8%) similar to retrospective study of **Byron E Wright et al**⁹.

Amongst the incisional ventral hernia infraumbilical hernia was commonest entity (50%) and gynecological procedures accounted for majority of cases of incisional hernia. **Qadri SJ et al** in study of 80 cases of incisional ventral hernia observed that obstetrical or gynecological procedure was the most common index surgery leading to incisional hernia and lower midline was commonest site of hernia¹⁰.

Post operative hospital stay was significantly longer in elderly patients(mean 5.85 days for patients aged 50 or above, 4 days for those below 50 yr; p= 0.013).similar observation was reported by **Polavarapu HV et al**¹¹.

Use of parenteral antibiotic beyond 24 hours was more common in patients with incisional ventral hernia(65.2%), compared to those with primary ventral hernia(37.5).this was statically significant (p = 0.03)

Use of prolonged i.v. antibiotics beyond 96hr, was more common following open mesh repair(32.1%), than laparoscopic repair.(p 0.0124). in the absence of medical or non incision site related surgical indication, this was suggestive of increased wound complication in open mesh repair group.

CONCLUSION

We conclude that overall ventral hernias are more common in female with average age of presentation of 50 yrs. But as compared to incisional (secondary) hernia, primary ventral hernia are more common in male.

Hence it is concluded that open mesh repair for ventral hernia, as compared to laparoscopic repair, was associated with:

Longer duration of post operative hospital stay;

Prolonged use of parenteral analgesic, and more than one analgesic; suggestive of more common post-operative pain.

Prolonged use of iv antibiotics in the post-operative period

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